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Electrochemical, especially electrochromic, device - has electrolyte layer or multilayer of reversible ion insertion material with constant overall oxidation state

Patent Assignee: SAINT-GOBAIN VITRAGE (COMP); SAINT-GOBAIN VITRAGE INT (COMP)

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Number of Countries: 011 Number of Patents: 007

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
FR 2746934	A1	19971003	FR 963799	A	19960327	199748 B
JP 10030181	A	19980203	JP 9775978	A	19970327	199815
CA 2201036	A	19970927	CA 2201036	A	19970326	199816
KR 97066698	A	19971013	KR 9710858	A	19970327	199842
EP 867752	A1	19980930	EP 97400702	A	19970327	199843
US 6277523	B1	20010821	US 97825100	A	19970327	200150
US 20010031403	A1	20011018	US 97825100	A	19970327	200166
			US 2001814703	A	20010323	

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Patent Details:

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FR 2746934	A1		31	G02F-001/15	
JP 10030181	A		52	C23C-014/48	
CA 2201036	A			H01M-002/00	
KR 97066698	A			G02F-001/15	
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Abstract (Basic): FR 2746934 A

In an electrochemical device including one or more substrates (1,7), one or more electrically conductive layers (2,6), one or more electrochemically active layers (3,5) capable of reversible insertion of ions (especially cations such as H⁺, Li⁺, Na⁺ and Ag⁺) and an electrolyte (4), the electrolyte (4) is a layer or multilayer stack including one or more ion conductive layers (4b) capable of reversible ion insertion but with a constant overall oxidation state.

Also claimed are: (i) the production of the above device, in which all or some of the layers are vacuum deposited by cathodic sputtering and/or vapour deposition and/or are deposited by sol-gel or pyrolytic techniques; (ii) electrochromic glazing, an energy storage element (especially a battery) and a gas sensor, including the above device; (iii) the use of the above electrochromic glazing as glazing for buildings, automobiles, mass transport or industrial vehicles, railway stock and aircraft, rearview mirrors, mirrors, optical elements such as photographic equipment objectives and front panels or elements for positioning in front of display screens of e.g. computers or televisions; and (iv) the use of the above energy storage element in electronic and/or information processing equipment and in equipment requiring an appropriate energy storage device.

USE - Used especially as an electrochromic device in which the light and/or energy transmission or light reflection can be modulated by an electric current, but also as an energy storage device (e.g. battery) or a gas sensor.

ADVANTAGE - Use of an ion insertion material not only for the electrochemically active layers but also for the electrolyte increases the durability or life of the device.

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Title Terms: ELECTROCHEMICAL; ELECTROCHROMIC; DEVICE; ELECTROLYTIC; LAYER; MULTILAYER; REVERSE; ION; INSERT; MATERIAL; CONSTANT; OVERALL; OXIDATION; STATE

Derwent Class: L03; P73; P81; S03; U11; U14; V07; X16; X22; X25

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File Segment: CPI; EPI; EngPI